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CLAIMS

- 1. A solar cell comprising a silicon substrate for a solar cell, formed by allowing a high-purity polycrystalline silicon layer to grow on a surface of a base sliced from a polycrystalline silicon ingot which is obtained by melting metal-grade silicon and solidifying the silicon in one direction, wherein a layer having a non-doped amorphous silicon phase and a microcrystalline silicon phase mixed together is stacked on the high-purity polycrystalline silicon layer.
 - 2. A solar cell according to claim 1, wherein a thickness of the layer having the non-doped amorphous silicon phase and the microcrystalline silicon phase mixed together ranges from 1 nm to 15 nm.
 - 3. A solar cell according to claim 1 or 2, wherein a ratio of the amorphous silicon phase and the microcrystalline silicon phase in the layer having the non-doped amorphous silicon phase and the microcrystalline silicon phase mixed together ranges from 1:1 to 10:1.
- 4. A solar cell comprising a crystalline silicon substrate or a crystalline silicon layer, a layer having an amorphous silicon phase and a microcrystalline silicon phase mixed together, and a polycrystalline silicon layer grown with the microcrystalline silicon phase as a seed, which are stacked in mentioned order.